

WHAT IS CLAIMED IS:

1. A conductive adhesive agent comprising:

a binder resin;

5 a conductive particle; and

an elution preventing film-forming agent,

wherein said elution preventing film-forming agent becomes reactive after electric continuity through said conductive particle appeared in the conductive adhesive agent when said binder resin is being hardened, to thereby form an elution preventing film on a surface of said conductive particle.

2. The conductive adhesive agent according to Claim 1, wherein a reaction temperature of said elution preventing film-forming agent satisfies conditions of:

application temperature of conductive adhesive agent < reaction temperature of elution preventing film-forming agent; and

20 reaction temperature of elution preventing film-forming agent \leq hardening temperature of binder resin.

3. The conductive adhesive agent according to Claim 1, wherein said elution preventing film-forming agent contains a chelating agent, said chelating agent becoming reactive after electric continuity through said conductive particle appeared in the conductive adhesive agent when said binder resin is being hardened, to thereby form an elution preventing film containing a metallic complex on a surface of said conductive particle.

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4. The conductive adhesive agent according to Claim 3, wherein an activation temperature of said chelating agent satisfies conditions of:

application temperature of conductive adhesive agent
< activation temperature of chelating agent; and

activation temperature of chelating agent \leq hardening
temperature of binder resin.

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5. The conductive adhesive agent according to Claim
4, wherein said elution preventing film-forming agent is
encapsulated in a micro-capsule, a melting temperature of said
micro-capsule and an activation temperature of a chelating
10 agent contained in said elution preventing film-forming agent
satisfying conditions of:

application temperature of conductive adhesive agent
< melting temperature of micro-capsule;

melting temperature of micro-capsule \leq hardening
15 temperature of binder resin; and

activation temperature of chelating agent \leq hardening
temperature of binder resin.

6. The conductive adhesive agent according to Claim
20 1, wherein said elution preventing film-forming agent is made
of a water-insoluble material.

7. The conductive adhesive agent according to Claim
1, wherein said elution preventing film-forming agent is made
25 of such a material that is insoluble in an aqueous solution
containing hydrogen sulfide or sulfur oxide.

8. The conductive adhesive agent according to Claim
3, wherein said elution preventing film-forming agent is added,
30 as dispersed in a non-polar solvent, to the conductive adhesive
agent.

9. A packaging structure comprising:

an electrical structure; and

a conductive adhesive agent layer formed on said electrical structure,

wherein said conductive adhesive agent layer contains
5 a conductive particle and is coated with an elution preventing film except at a contact point between said conductive particles and between said conductive particle and said electrical structure.

10 10. The packaging structure according to Claim 9, comprising another electrical structure arranged on said electrical structure, wherein said conductive adhesive agent layer serves to electrically interconnect said electrical structure and said another electrical structure.

15 11. The packaging structure according to Claim 9, wherein said elution preventing film is made up a material containing a metallic complex.

20 12. The packaging structure according to Claim 9, wherein said elution preventing film is made up a water-insoluble material.

25 13. The packaging structure according to Claim 9, wherein said elution preventing film is made up a material which is insoluble in an aqueous solution containing hydrogen sulfide or sulfur oxide.

30 14. A method for manufacturing a packaging structures having an electrical structure and a conductive adhesive agent layer formed on an electrode of said electrical structure, comprising:

a conductive adhesive agent-forming step of preparing a conductive adhesive agent containing a binder resin, a conductive particle, and an elution preventing film-forming agent, a reaction temperature of said elution preventing
5 film-forming agent satisfying conditions of:

application temperature of conductive adhesive agent
< reaction temperature of elution preventing film-forming agent; and

reaction temperature of elution preventing film-
10 forming agent \leq hardening temperature of binder agent,
to then apply and form said conductive adhesive agent on said electrode at said application temperature;

an elution preventing film-forming step of heating said conductive adhesive agent up to said hardening temperature and
15 permitting said elution preventing film-forming agent to be reactive at said reaction temperature during a course of a rise in temperature, to thereby form an elution preventing film on said conductive particle; and

a hardening step of heating said conductive adhesive
20 agent up to said hardening temperature to thereby harden said binder resin.

15. The method for manufacturing a packaging structure according to Claim 14, wherein as said conductive adhesive
25 agent, such a material is used that contains a chelating agent and also that said elution preventing film-forming agent is added as dispersed in a non-polar solvent.

16. The method for manufacturing a packaging structure
30 according to Claim 14, comprising a step of preparing said elution preventing film-forming agent containing a chelating agent, a reaction temperature of the chelating agent satisfying conditions of:

application temperature of conductive adhesive agent
< activation temperature of chelating agent; and

activation temperature of chelating agent \leq hardening
temperature of binder resin,

5 wherein during said elution preventing film-forming
step, said conductive adhesive agent is heated up to said
hardening temperature and said chelating agent is permitted to
be reactive at said activation temperature during a course of
a rise in temperature, to thereby form an elution preventing
10 film which contains a metallic complex on said conductive
particle.

17. The method for manufacturing a packaging structure
according to Claim 14, such the elution preventing film-forming
15 agent that is encapsulated in a micro-capsule is used, a melting
temperature of said micro-capsule and an activation
temperature of a chelating agent contained in an elution
preventing film satisfying conditions of:

application temperature of conductive adhesive agent
20 < melting temperature of micro-capsule;

melting temperature of micro-capsule \leq hardening
temperature of binder resin; and

activation temperature of chelating agent \leq hardening
temperature of binder agent.

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18. A method for manufacturing a packaging structures
having an electrical structure and a conductive adhesive agent
layer formed on an electrode of said electrical structure,
comprising:

30 a conductive adhesive agent-forming step of preparing
a conductive adhesive agent containing a binder resin, a
conductive particle, and an elution preventing film-forming

agent, a reaction temperature of said elution preventing film-forming agent satisfying a condition of:

hardening temperature of binder resin < reaction temperature of elution preventing film-forming agent,

5 to then form a layer of the conductive adhesive agent as unhardened on said electrode;

a hardening step of re-heating said conductive adhesive agent up to said hardening temperature to thereby harden said binder resin; and

10 an elution preventing film-forming step of re-heating said conductive adhesive agent up to said reaction temperature or higher to thereby permit said elution preventing film-forming agent to be reactive, thus forming an elution preventing film on said conductive particle.

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19. The method for manufacturing a packaging structure according to Claim 18, wherein:

20 as said elution preventing film-forming agent, such a material is used that contains a chelating agent which has an activation temperature higher than a hardening temperature of said binder resin;

during said hardening step, said binder resin is hardened through heating at a temperature lower than said activation temperature; and

25 during said elution preventing film-forming step, said chelating agent is permitted to be reactive through re-heating at a temperature not lower than said activation temperature, thus forming an elution preventing film containing a metallic complex on said conductive particle.

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20. The method for manufacturing a packaging structure according to Claim 18, wherein such said conductive adhesive

agent is used that said elution preventing film-forming agent is added thereto as dispersed in a non-polar solvent.

21. The method for manufacturing a packaging structure according to Claim 18, wherein such the elution preventing film-forming agent is used that is encapsulated in a micro-capsule, a melting temperature of said micro-capsule and an activation temperature of a chelating agent contained in an elution preventing film satisfying conditions of:

application temperature of conductive adhesive agent < melting temperature of micro-capsule;

melting temperature of micro-capsule \leq hardening temperature of binder resin; and

activation temperature of chelating agent \leq hardening temperature of binder resin.